

Analytical Data Package Prepared For

Fluor Hanford

Radiochemical Analysis By

TAL Richland TARL

2800 G.W. Way, Richland Wa, 99354, (509)-375-3131.

Data Package Contains _____ Pages

Report Nbr: 38614

SDG Nbr	ORDER Nbr	CLIENT ID NUMBER	LOT Nbr	WORK ORDER	RPT DB ID	BATCH
W05260A	G08-011	B1R130	J8B270271-1	KHPM13AC	9KHPM130	8072510
		B1R129	J8B270271-2	KHPM42AC	9KHPM420	8072510

Comments:

Certificate of Analysis

Fluor Hanford
1200 Jadwin Ave.
Richland, WA 99352

March 25, 2008

Attention: Steve Trent

SAF Number	:	G08-011
Date SDG Closed	:	November 7, 2007
Number of Samples	:	Two (2)
Sample Type	:	Water
SDG Number	:	W05260A
Data Deliverable	:	15 Day / Summary

CASE NARRATIVE

On February 27, 2008 a request for reanalysis (Order Number: 080227TARL-R4650) of two water samples were received at STL Richland (STLR) for radiochemical analysis. Upon receipt, the samples were assigned the following laboratory ID numbers to correspond with the Fluor Hanford specific IDs:

<u>PGW ID#</u>	<u>STLR ID#</u>	<u>MATRIX</u>	<u>DATE OF RECEIPT</u>
B1R130	KHPM1 (KAJP1)	WATER	11/02/07
B1R129	KHPM4 (KAJP7)	WATER	11/02/07

II. Sample Receipt

The sample was received in good condition and no anomalies were noted during check-in.

III. Analytical Results/Methodology

The analytical results for this report are presented by laboratory sample ID. Each set of data includes sample identification information, analytical results and the appropriate associated statistical errors.

The requested analyses were:

Gas Proportional Counting
Gross Beta by method RICH-RC-5014

Fluor Hanford
March 25, 2008

IV. Quality Control

The analytical results for each analysis performed includes a minimum of one laboratory control sample (LCS), one method (reagent) blank, and one duplicate sample analysis. Any exceptions have been noted in the "Comments" section.

QC and sample results are reported in the same units.

V. Comments

Gas Proportional Counting

Gross Beta by method RICH-RC-5014:

The reanalysis results are within RER acceptance criteria.

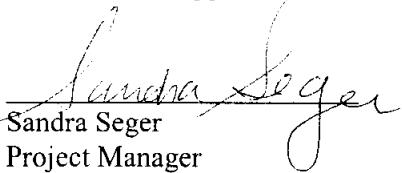
The original analysis had a high blank. A recount did not lower the blank result. The samples were reanalyzed.

Samples B1R129 and B1R130 were analyzed with reduced based on weight screens. The MDA for sample B1R129 is at the CRDL, however the result exceeds the achieved MDA.

Except as noted, the LCS, batch blank, samples and sample duplicate (B1D170) results are within contractual requirements.

I certify that this Certificate of Analysis is in compliance with the SOW, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package has been authorized by the Laboratory Manager, or a designee as verified by the following signature.

Reviewed and approved:


Sandra Seger
Project Manager

Drinking Water Method Cross References

DRINKING WATER ASTM METHOD CROSS REFERENCES		
Referenced Method	Isotope(s)	STL Richland's SOP number
EPA 901.1	Cs-134, I-131	RICH-RC-5017
EPA 900.0	Alpha & Beta	RICH-RC-5014
EPA 00-02	Gross Alpha (Coprecipitation)	RICH-RC-5021
EPA 903.0	Total Alpha Radium (Ra-226)	RICH-RC-5027
EPA 903.1	Ra-226	RICH-RC-5005
EPA 904.0	Ra-228	RICH-RC-5005
EPA 905.0	Sr-89/90	RICH-RC-5006
ASTM D5174	Uranium	RICH-RC-5058
EPA 906.0	Tritium	RICH-RC-5007

Uncertainty Estimation

Test America Richland has adopted the internationally accepted approach to estimating uncertainties described in "NIST Technical Note 1297, 1994 Edition". The approach, "Law of Propagation of Errors", involves the identification of all variables in an analytical method which are used to derive a result. These variables are related to the analytical result (R) by some functional relationship, $R = \text{constants} * f(x,y,z,...)$. The components (x,y,z) are evaluated to determine their contribution to the overall method uncertainty. The individual component uncertainties (u_i) are then combined using a statistical model that provides the most probable overall uncertainty value. All component uncertainties are categorized as type A, evaluated by statistical methods, or type B, evaluated by other means. Uncertainties not included in the components, such as sample homogeneity, are combined with the component uncertainty as the square root of the sum-of-the-squares of the individual uncertainties. The uncertainty associated with the derived result is the combined uncertainty (u_c) multiplied by the coverage factor (1,2, or 3).

When three or more sample replicates are used to derive the analytical result, the type A uncertainty is the standard deviation of the mean value (S/\sqrt{n}), where S is the standard deviation of the derived results. The type B uncertainties are all other random or non-random components that are not included in the standard deviation.

The derivation of the general "Law of Propagation of Errors" equations and specific example are available on request.

Report Definitions

Action Lev	An agreed upon activity level used to trigger some action when the final result is greater than or equal to the Action Level. Often the Action Level is related to the Decision Limit.
Batch	The QC preparation batch number that relates laboratory samples to QC samples that were prepared and analyzed together.
Bias	Defined by the equation (Result/Expected)-1 as defined by ANSI N13.30.
COC No	Chain of Custody Number assigned by the Client or STL Richland.
Count Error (#s)	Poisson counting statistics of the gross sample count and background. The uncertainty is absolute and in the same units as the result. For Liquid Scintillation Counting (LSC) the batch blank count is the background.
Total Uncert (#s) <i>u_c - Combined Uncertainty.</i>	All known uncertainties associated with the preparation and analysis of the sample are propagated to give a measure of the uncertainty associated with the result, <i>u_c</i> the combined uncertainty. The uncertainty is absolute and in the same units as the result.
(#s), Coverage Factor	The coverage factor defines the width of the confidence interval, 1, 2 or 3 standard deviations.
CRDL (RL)	Contractual Required Detection Limit as defined in the Client's Statement Of Work or STL Richland "default" nominal detection limit. Often referred to the reporting level (RL)
Lc	Decision Level based on instrument background or blank, adjusted by the Efficiency, Chemical Yield, and Volume associated with the sample. The Type I error probability is approximately 5%. $Lc = (1.645 * \sqrt{2 * (BkgndCnt/BkgndCntMin) / SCntMin}) * (\text{ConvFct} / (\text{Eff} * \text{Yld} * \text{Abn} * \text{Vol}) * \text{IngrFct})$. For LSC methods the batch blank is used as a measure of the background variability. Lc cannot be calculated when the background count is zero.
Lot-Sample No	The number assigned by the LIMS software to track samples received on the same day for a given client. The sample number is a sequential number assigned to each sample in the Lot.
MDC MDA	Detection Level based on instrument background or blank, adjusted by the Efficiency, Chemical Yield, and Volume with a Type I and II error probability of approximately 5%. $MDC = (4.65 * \sqrt{(BkgndCnt/BkgndCntMin) / SCntMin}) + 2.71 / SCntMin * (\text{ConvFct} / (\text{Eff} * \text{Yld} * \text{Abn} * \text{Vol}) * \text{IngrFct})$. For LSC methods the batch blank is used as a measure of the background variability.
Primary Detector	The instrument identifier associated with the analysis of the sample aliquot.
Ratio U-234/U-238	The U-234 result divided by the U-238 result. The U-234/U-238 ratio for natural uranium in NIST SRM 4321C is 1.038.
Rst/MDC	Ratio of the Result to the MDC. A value greater than 1 may indicate activity above background at a high level of confidence. Caution should be used when applying this factor and it should be used in concert with the qualifiers associated with the result.
Rst/TotUcert	Ratio of the Result to the Total Uncertainty. If the uncertainty has a coverage factor of 2 a value greater than 1 may indicate activity above background at approximately the 95% level of confidence assuming a two-sided confidence interval. Caution should be used when applying this factor and it should be used in concert with the qualifiers associated with the result.
Report DB No	Sample Identifier used by the report system. The number is based upon the first five digits of the Work Order Number .
RER	The equation Replicate Error Ratio = $(S-D)/[\sqrt{(TPUs^2 + TPUs^2)}]$ as defined by ICPT BOA where S is the original sample result, D is the result of the duplicate, TPUs is the total uncertainty of the original sample and TPUs is the total uncertainty of the duplicate sample.
SDG	Sample Delivery Group Number assigned by the Client or assigned by STL Richland upon sample receipt.
Sum Rpt Alpha Spec Rst(s)	The sum of the reported alpha spec results for tests derived from the same sample excluding duplicate result where the results are in the same units.
Work Order	The LIMS software assign test specific identifier.
Yield	The recovery of the tracer added to the sample such as Pu-242 used to trace a Pu-239/40 method.

3/25/2008 1:52:59 PM

TAL Richland Report

FormNbr:	R	FormatType:	FEAD	Version:	05	Rpt Nbr:	38614	File Name:	h:\Reportdb\edd\Feadl\W05260A.Edd, h:\Reportdb\edd\Feadl\VRad\Rad38614.E	Lab Code:	TARL	
Lab	Client Id:	Test User	Contract Nbr	SAF Nbr	Sdg Nbr	QC Type:	Moisture/ Solids%*:	Distilled Volume	Sample On Date:	Collection Date:		
SKHPM130	B1R130	MW6-SBB-A1	G08-011	W05260A						11/02/2007 12:39		
Batch	Analyte	CAS#	Result	Unit	CntU 2S	TotU 2S	Qual	MDA	TrcYield	Method	Alq Size	
8072510	BETA	12587-47-2	4.18E+03	pCi/L	3.5E+01	5.2E+02		3.92E+00 100.0	9310_ALPHABETA 1.402E-01	L	03/17/2008 17:32	1
Lab	Client Id:	Test User	Contract Nbr	SAF Nbr	Sdg Nbr	QC Type:	Moisture/ Solids%*:	Distilled Volume	Sample On Date:	Collection Date:		
SKHPM420	B1R129	MW6-SBB-A1	G08-011	W05260A						11/02/2007 12:39		
Batch	Analyte	CAS#	Result	Unit	CntU 2S	TotU 2S	Qual	MDA	TrcYield	Method	Alq Size	
8072510	BETA	12587-47-2	3.68E+03	pCi/L	2.8E+01	5.9E+02		3.88E+00 100.0	9310_ALPHABETA 9.60E-02	L	03/17/2008 18:23	1

Tuesday, March 25, 2008

TAL Richland QC Blank Report

FormNbr:	R	FormatType:	FEAD	VersionNbr:	05	File Name:	h:\Reportdb\edd\Fead\W05260A.Edd	Lab Code:	TARL
Lab Sample Id:	KJGCD1AB	Sdg/Rept Nbr:	W05260A	38614		Collection Date:	11/02/2007 12:39		
Client Id:	NA	Matrix:	WATER	WATER		Sample On Date:			
Moisture/Solids%*:		QC Type:	BLK			Received Date:	02/27/2008		

SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RTyp	AD	H
	MW6-SBB-A19981											
Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Tot/Cnt	Qu- al	Spk Conc/ %Rec	Tracer Yield	Spk Conc/ %Rec	Analy Method	Aliq Size/	Date/Time Analyzed	RPD/ UCL	RCS LCL/UCL
8072510	BETA	7.66E-01	pCi/L	9.8E-01	U	1.91E+00	100.0	9310_ALPHAB	2.002E-01	03/17/2008		D
BLK	12587-47-2			9.8E-01				L	18:23			

Tuesday, March 25, 2008

TAL Richland QC Control Sample Report

FormNbr:	R	FormatType:	FEAD	VersionNbr:	05	File Name:	h:\Reportdb\edd\Feadi\V\Rad\W05260A.Edd, h:\Reportdb\edd\Feadi\V\Rad\38614.E	Lab Code:	TARI	
Lab Sample Id:	KJGCD1CS	Sdg/Rept Nbr:	W05260A	Collection Date:	11/02/2007 12:39					
Client Id:	NA	Matrix:	WATER	Sample On Date:						
Moisture/Solids%*:		QC Type:	BS	Received Date:	02/27/2008					
SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix	RTyp
	MW6-SBB-A19981								AE	H
Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	Tot/Cnt Uncert 2S	Qu- al	Tracer MDC Yield	Spk Conc/ %Rec	Analy Method	Aliq Size/	LCS
8072510	BETA	2.28E+01	pCi/L	3.4E+00	1.84E+00	100.0	2.26E+01	9310_ALPHAB	2.001E-01	R
BS	12587-47-2			1.8E+00		101.2		L	03/17/2008	LCL/UCL
									18:23	Typ
									70	D
									130	

Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit	Tot/Cnt Uncert 2S	Qu- al	Tracer MDC Yield	Spk Conc/ %Rec	Analy Method	Aliq Size/	LCS
8072510	BETA	2.28E+01	pCi/L	3.4E+00	1.84E+00	100.0	2.26E+01	9310_ALPHAB	2.001E-01	R
BS	12587-47-2			1.8E+00		101.2		L	03/17/2008	LCL/UCL

Tuesday, March 25, 2008

TAL Richland QC Duplicate Report

FormNbr:	R	FormatType:	FEAD	VersionNbr:	05	File Name:	h:\Reportdb\edd\FeadIV\Rad\W05260A.Edd, h:\Reportdb\edd\FeadIV\Rad\38614.E	Lab Code:	TARL
Lab Sample Id:	KHPM41DR	Sdg/Rept Nbr:	W05260A	38614	Collection Date:	11/02/2007 12:39			
Client Id:	B1R129	Matrix:	WATER	WATER	Sample On Date:				
Moisture/Solids%*:		QC Type:	DUP	DUP	Received Date:	02/27/2008			
SAF Nbr	Contract Nbr	Test User	Case Nbr	SAS Nbr	Suffix	Decant	Distilled Volume	File Id	FSuffix RTyp
G08-011	MW6-SBB-A19981								AC H
Batch # / Qc Type	Analyt/ CAS#	Result/ Orig Rst	Unit pCi/L	Tot/Cnt Uncert 2S	Qu- al	Tracer MDC	Spk Conc/ %Rec	Analy Method	Aliq Size/
8072510	BETA	4.32E+03	5.4E+02	4.10E+00	100.0			9310_ALPHAB	9.61E-02
DUP	12587-47-2	3.68E+03	3.1E+01					L	Date/Time Analyzed
									03/17/2008
									RPD/ UCL
									RER/ UCL
									LCS LCL/UCL
									Typ
									D
									3
									20.0
									18:23

Lot No., Due Date: J8B270271; 03/13/2008
Client, Site: 384868; PGW 615HANFORD HANFORD
QC Batch No., Method Test: 8072510; RBETA-SR Beta by GPC-Sr/Y
SDG, Matrix: W05260A; WATER

1.0 COC

1.1 Is the ICOC page complete; includes all applicable analysis, dates, SOP numbers, and revisions?

Yes No N/A

2.0 QC Batch

2.1 Do the Summary/Detailed Reports include a calculated result for each sample listed on the QC Batch Sheet?

Yes No N/A

2.2 Are the QC appropriate for the analysis included in the batch?

Yes No N/A

2.3 Is the Analytical Batch Worksheet complete; includes as appropriate, volumes, count times, etc?

Yes No N/A

2.4 Does the Worksheets include a Tracer Vial label for each sample?

Yes No N/A

3.0 QC & Samples

3.1 Is the blank results, yield, and MDA within contract limits?

Yes No N/A

3.2 Is the LCS result, yield, and MDA within contract limits?

Yes No N/A

3.3 Are the MS/MSD results, yields, and MDA within contract limits?

Yes No N/A

3.4 Are the duplicate result, yields, and MDAs within contract limits?

Yes No N/A

3.5 Are the sample yields and MDAs within contract limits?

Yes No N/A

4.0 Raw Data

4.1 Were results calculated in the correct units?

Yes No N/A

4.2 Were analysis volumes entered correctly?

Yes No N/A

4.3 Were Yields entered correctly?

Yes No N/A

4.4 Were spectra reviewed/meet contractual requirements?

Yes No N/A

4.5 Were raw counts reviewed for anomalies?

Yes No N/A

5.0 Other

5.1 Are all nonconformances included and noted?

Yes No N/A

5.2 Are all required forms filled out?

Yes No N/A

5.3 Was the correct methodology used?

Yes No N/A

5.4 Was transcription checked?

Yes No N/A

5.5 Were all calculations checked at a minimum frequency?

Yes No N/A

5.6 Are worksheet entries complete and correct?

Yes No N/A

6.0 Comments on any No response:

NCM 10-11994

First Level Review

Date

Data Review Checklist
RADIOCHEMISTRY
 Second Level Review

Batch Number: 887251D

Review Item	Yes (✓)	No (✗)	NA (✗)
A. Sample Analysis			
1. Are the sample yields within acceptance criteria?			✓
2. Is the sample Minimum Detectable Activity < the Contract Detection Limit?	✓		
3. Are the correct isotopes reported?	✓		
B. QC Samples			
1. Is the Minimum Detectable Activity for the blank result \leq the Contract Detection Limit?	✓		
2. Does the blank result meet the Contract criteria?	✓		
3. Is the blank result < the Contract Detection Limit?	✓		
4. Is the blank result $>$ the Contract Detection Limit but the sample result < the Contract Detection Limit?			✓
5. Is the LCS recovery within contract acceptance criteria?	✓		
6. Is the LCS Minimum Detectable Activity \leq the Contract Detection Limit?	✓		
7. Do the MS/MSD results and yields meet acceptance criteria?			✓
8. Do the duplicate sample results and yields meet acceptance criteria?		✓	
C. Other			
1. Are all Non-conformances included and noted?	✓		
2. Are all required forms filled out?	✓		
3. Was the correct methodology used?	✓		
4. Was transcription checked?	✓		
5. Were all calculations checked at a minimum frequency?	✓		
6. Were units checked?	✓		

Comments on any "No" response: See Nun

Second Level Review: Erike Jord Date: 3/24/18

Clouseau Nonconformance Memo



NCM #: **10-11994**

NCM Initiated By: Lisa Antonson

Date Opened: 03/20/2008

Date Closed:

Classification: **Anomaly**

Status: **QAREVIEW**

Production Area: Environmental - Prep

Tests: Beta by GPC-Sr/Y

Lot #'s (Sample #'s): J8B270271 (1,2), J8C120000
(510),

QC Batches: 8072510,

Nonconformance: Other (describe in detail)

Subcategory: Other (explanation required)

Problem Description / Root Cause

Name	Date	Description
Lisa Antonson	03/20/2008	This Beta batch is a rerun of 8059219 due to a high blank.

In the rerun, sample KHPM41ad has an MDA right at CRDL, but has a result that exceeds the MDA achieved. Data accepted.

Corrective Action

Name	Date	Corrective Action
Lisa Antonson	03/20/2008	Samples were rerun with acceptable blank results.

Client Notification Summary

Client	Project Manager	Notified	Response	How Notified	Note

Quality Assurance Verification

Verified By	Due Date	Status	Notes
		This section not yet completed by QA.	

Approval History

Date Approved	Approved By	Position

15 DAY Priority

02/27/2008

**RECHECK, RECOUNT, OR REANALYSIS ORDER
CONTRACT NO MW6-SBB-A19981**

W05260A

Rec'd 2/27/08

Due 3/13/08

J8B270271

**TestAmerica Incorporated,
2800 George Washington Way
Richland, WA 99354**

Battelle PNNL Order Number: 080227TARL-R4650

Sample Delivery Group: W05260

Special Instructions None

Samples(s)

Lab Sample ID	PNNL Sample	Action	TAT	METHOD_NAME:
9KAJP110	B1R130	Reanalysis	15/15	9310_ALPHABETA_G KHPM1
9KAJP710	B1R129	Reanalysis	15/15	9310_ALPHABETA_G KHPM4

Deliver Report Results to: Fluor Hanford, Inc.

1200 Jadwin Ave.
Richland, WA 99352
C/O Mr. Steve Trent

The report results must reference the Battelle PNNL-order number, SDG number, and the Battelle PNNL sample identification number shown above.

Seeger, Sandra

From: Hampt, Heidi [Heidi_Hampt@RL.gov]
Sent: Wednesday, February 27, 2008 8:18 AM
To: Jordan, Erika; Seeger, Sandra
Cc: Trent, Stephen J; Ayres, Doris E
Subject: Request for Recheck, Recount, or Reanalysis Order

Attachments: 080227TARLR4650.rtf



080227TARLR4650.rtf (3 KB)

See Attached

Sample Check-in List

Date/Time Received: 11 2 07 1434

Client: PLW SDG #: U0516C NA [] SAF #: G08-011 NA []

Work Order Number: J7K050173 Chain of Custody # G08-011-5-4,-10,9,-7

Shipping Container ID: _____ Air Bill # _____

1. Custody Seals on shipping container intact? NA [] Yes No []
2. Custody Seals dated and signed? NA [] Yes No []
3. Chain of Custody record present? NA [] Yes No []
4. Cooler Temperature: _____ NA 5. Vermiculite/packing materials is NA Wet [] Dry []
6. Number of samples in shipping container: 5
7. Sample holding times exceeded? NA Yes [] No []
8. Samples have:
 Tape
 Custody Seals Hazard Labels
 Appropriate Sample Labels
9. Samples are:
 In Good Condition
 Broken Leaking
 Have Air Bubbles
 (Only for samples requiring no head space.)
10. Sample pH taken? NA [] pH<2 pH>2 [] pH>9 []
11. Sample Location, Sample Collector Listed? *
 *For documentation only. No corrective action needed.
12. Were any anomalies identified in sample receipt? Yes [] No
13. Description of anomalies (include sample numbers): _____

Sample Custodian: RJ Date: 11 2 07

Client Sample ID	Analysis Requested	Condition	Comments/Action

Client Informed on _____ by _____ Person Contacted _____

[] No action necessary; process as is.

Project Manager _____ Date _____



RE-ANALYSIS REQUEST

DUE DATE 3/13/08

CUSTOMER P&W

ANALYSIS Beta

MATRIX Water

LOT NUMBER J8B270271

SAMPLE DELIVERY GROUP _____

OLD BATCH NUMBER 80559219

NEW BATCH NUMBER 8072570

LAB SAMPLE ID	CLIENT ID	REASON FOR REQUEST & ANALYSIS COMMENTS
1) Cell		High blank
2)		
3)		
4)		
5)		
6)		
7)		
8)		
9)		
10)		
11)		
12)		
13)		
14)		
15)		
16)		
17)		
18)		
19)		
20)		
LAB QC ID		Assigned with new batch.

3/14/2008 8:47:07 AM

TESTAMERICA
384868, Pacific Northwest National Laboratory
Pacific Northwest National Lab
AnalyDueDate: 03/13/2008

Sample Preparation/Analysis

BC Gross Beta PrpRC5014
S8 Gross Beta by GPC using Sr/Y-90 curve
51 CLIENT: HANFORD

Balance Id:1120482733

Batch: 8072510 WATER
SEQ Batch, Test: None

Pipet #:

Sep1 DT/Tm Tech:

Sep2 DT/Tm Tech:

pc/L

PM, Quote: SS , 57671

Prep Tech: HarrisD | Book

Work Order Lot, Sample Date/Time	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On Off (24hr) Circle	CR Analyst, Init/Date	Comments:
1 KHPM1-3-AC J8B270271-1-SAMP 11/02/2007 12:39	140.20g,in AmtRec: LP	1.5		48 S						Beta:
2 KHPM4-1-AD-X J8B270271-2-DUP 11/02/2007 12:39	96.10g,in AmtRec: LP			100	26A	100 3				Alpha:
3 KHPM4-2-AC J8B270271-2-SAMP 11/02/2007 12:39	96.00g,in AmtRec: LP			47.3						Beta:
4 KJGCD-1-AA-B J8C120000-510-BLK 11/02/2007 12:39	200.20g,in AmtRec:			42.9						Alpha:
5 KJGCD-1-AC-C J8C120000-510-LCS 11/02/2007 12:39	200.10g,in AmtRec:			0.2						Beta:
Comments: H2O Oct 3/14/08										

All Clients For Batch:

384868, Pacific Northwest National Laboratory

Pacific Northwest National Lab, ss , 57671

KHPM13AC-SAMP Constituent List:

RPD:

uCL:

LCL:

RDL:

Beta:

Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2

Page 1

ISV - Insufficient Volume for Analysis

WO Cnt: 5

Prep_SamplePrep v4.8.32

3/14/2008 8:47:08 AM

Sample Preparation/Analysis

BC Gross Beta PpRC5014

S8 Gross Beta by GPC using Sr/Y-90 curve

5I CLIENT: HANFORD

AnalyDueDate: 03/13/2008

Batch: 8072510
SEQ Batch, Test: None

PCI/L

Balance Id:1120482733

Pipet #:

Sep1 DT/Tm Tech:

Sep2 DT/Tm Tech:

Prep Tech: ,HarrisD

Work Order Lot, Sample Date/Time	Total Amt/Unit	Initial Aliquot Amt/Unit	QC Tracer Prep Date	Dish Size	Ppt or Geometry	Count Time Min	Detector Id	Count On Off (24hr) Circle	CR Analyst, Init/Date	Comments:
-------------------------------------	-------------------	-----------------------------	------------------------	--------------	--------------------	-------------------	----------------	---------------------------------	--------------------------	-----------

KJGCD1AA-BLK:
BETA RDL:4 .00E+00 PCI/L LCL: UCL: RPD:KJGCD1AC-LCS:
Sr-90 RDL: PCI/L LCL:70 UCL:130 RPD:20

KHFM13AC-SAMP Calc Info:

Uncert Level (#s) : 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

KJGCD1AA-BLK:
Uncert Level (#s) : 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: BKJGCD1AC-LCS:
Uncert Level (#s) : 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

Approved By _____

Date: _____

TAL Richland
Richland Wa.
Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2
pd - Prep Dt, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added

Page 2

ISV - Insufficient Volume for Analysis

WO Cnt: 5
Prep_SamplePrep v4.8.32

3/20/2008 11:43:41 AM

ICOC Fraction Transfer/Status Report

ByDate: 3/21/2007, 3/25/2008, Batch: '8072510', User: *ALL Order By DateTimeAccepting

Q	Batch	Work Ord	CurStatus	Accepting	Comments
8072510					
AC		Rev1C	HarrisD	3/14/2008 8:38:17	
SC		antonsonl	IsBatched	3/12/2008 4:37:31 PM	ICOC_RADCALC v4.8.32
SC		HarrisD	InPrep	3/14/2008 8:38:17 AM	RICH-RC-5017 Revision 6
SC		HarrisD	Prep1C	3/14/2008 8:46:11 AM	RICH-RC-5016 REVISION 7
SC		BockJ	InPrep2	3/17/2008 8:18:55 AM	RICH-RC-5014 REVISION 7
SC		BockJ	Prep2C	3/17/2008 5:03:51 PM	RICH-RC-5014 REVISION 7
SC		DAWKINSO	InCnt1	3/17/2008 6:22:15 PM	RICH-RD-0003 REVISION 5
SC		DAWKINSO	CalcC	3/17/2008 10:20:52 PM	RICH-RD-0003 REVISION 5
SC		antonsonl	Rev1C	3/20/2008 11:43:35 AM	RICH-RC-0002 REV 8
AC		HarrisD	3/14/2008 8:46:11		
AC		BockJ	3/17/2008 8:18:55		
AC		BockJ	3/17/2008 5:03:51 PM		
AC		DAWKINSO	3/17/2008 6:22:15 PM		
AC		DAWKINSO	3/17/2008 10:20:52		rEVISION 5
AC		antonsonl	3/20/2008 11:43:35		

AC: Accepting Entry; SC: Status Change

TAL Richland

Richland Wa.

Grp Rec Cnt: 7

ICOCPARTS v4.8.32